



STATE OF INDIANA

Mitchell E. Daniels, Jr.
Governor

STATE BUDGET AGENCY
212 State House
Indianapolis, Indiana 46204-2796
317-232-5610

Adam M. Horst
Director

August 18, 2011

Nancy King
Attorney
IDEM Office of Legal Council
100 North Senate Avenue N1307
Indianapolis, IN 46204

Dear Ms. King:

Pursuant to the provisions of Executive Order 2-89 and Budget Agency Financial Management Circular 2010-4, the State Budget Agency has reviewed the proposed rule to amend 327 IAC 19 (LSA #09-615) which you submitted to the State Budget Agency on June 20, 2011.

After reviewing the proposed rule, the recommendation of the State Budget Agency is that the rule changes be approved.

Furthermore, the statement and analysis (attached hereto) provided by the Indiana Department of Environmental Management is hereby adopted as the Office of Management and Budget's own Fiscal Impact Statement for the purpose of satisfying the requirements under IC 4-22-2-28(d). Also, it is adopted as the Office of Management and Budget's cost benefit analysis under IC 4-3-22-13(a).

If you have questions concerning this action, please contact your budget analyst or Gayle Pierson at 232-5610.

Sincerely,

Adam M. Horst
Director

AMH/GP

August 18, 2011

Development of New Rules at 327 IAC 19 Concerning Confined Feeding Operations
LSA Document #09-615

Cost-Benefit Analysis

A. Statement of Need

1. **Need for the rule.** This new article implements IC 13-18-10, which requires persons to obtain approval from IDEM prior to the start of construction or expansion of a confined feeding operation (CFO). This article will replace 327 IAC 16 and will update design and construction standards, manure land application rates, and operational and closure requirements to reflect issues that have arisen since the last revision to the CFO program in 2003.

This new article covers all CFOs, including those large enough to be defined as concentrated animal feeding operations (CAFO), except those which obtain NPDES CAFO permits under the revised 327 IAC 15-16. It will ensure that CAFOs that do not obtain NPDES permits will maintain the same level of environmental protection under a state CFO approval.

2. **Affected businesses and individuals.** *Business* entities potentially affected by approvals issued under this article:

| Entities | | Totals | Affected under this rule |
|------------------------------------------------------------------|---------------------------------------------------------------------|--------|--------------------------|
| CFOs | All regulated under 327 IAC 19 | 1416 | 1416 |
| | | | |
| CAFOs | Total CAFOs in Indiana | 625 | |
| | CAFOs exempt under 327 IAC 5-4-3(i)(3), regulated as CFOs | 111 | 111 |
| | CAFOs discharging or otherwise requiring NPDES permits ¹ | 46 | 0 ¹ |
| | CAFOs not discharging, NPDES permit not required ² | 468 | 468 ² |
| | | | |
| | | | |
| | | | |
| Total entities requiring approvals under 327 IAC 19 (CFO + CAFO) | | | 1995 |

¹ CAFOs that do not discharge will be required obtain CFO approvals under 327 IAC 19. CAFOs that discharge and obtain NPDES permits under proposed 327 IAC 15-16 will follow certain parts of 327 IAC 19 which establish the Indiana state effluent limitations and standards required under 40 CFR 122.42(e). Costs to CAFOs that obtain NPDES permits are discussed in the cost-benefit analysis for LSA Document #09-213. We are assuming that 10% of CAFOs have experienced, during the term of their current permit or approval, a discharge that would not qualify as an agricultural storm water discharge under the criteria in 40 CFR 122.23(e).

² The 5th Circuit Court of Appeals in *National Pork Producers v. EPA* (Case number 08-61093, March 15, 2011) has decided that a CAFO that does not actually discharge is not required to obtain an NPDES permit under CWA (33 U.S.C. 1342).

Source: IDEM Office of Land Quality

CAFO owner/operators must review their operations and determine on case-by-case basis whether an individual CAFO will discharge and require a CAFO NPDES permit under #09-213 (327 IAC 15-16). If the CAFO will not discharge, the owner/operator must seek a state CFO approval under 327 IAC 19 (this rule).

3. **Policy rationale or goal.**

A. The primary goal of this rule is to update the requirements for CFOs to implement IC 13-18-10 as revised in 2009 (P.L. 127-2009) and 2010 (P.L. 1-2010). The rule incorporates the existing requirements of 327 IAC 16 and makes these significant changes:

- Bases nutrient application rates on phosphorus (P) rather than nitrogen (N).
- Uses industry consensus standards for design and construction.
- Prohibits manure surface application to frozen or snow-covered ground except in emergencies.
- Adds a requirement for groundwater monitoring.

This rule is also intended to be consistent with the order of the 2nd Circuit Court of Appeals in *Waterkeeper Alliance, et al. v. EPA*, 399 F.3d 486 (2d Cir. 2005) by ensuring that those CAFOs that do not discharge and are not required to obtain an NPDES permit retain approval coverage under the state CFO program established in this rule.

B. This rule will replace 327 IAC 16, which was implemented to require department approval prior to the start of construction of a CFO or CAFO. Animal production in confined feeding operations will continue to expand in Indiana, and the risks to the environment and human health from manure and other pollutants resulting from these operations entering the waters of the state, including water used for human consumption. This rule will continue to reduce run-off from regulated farms into waters of the state by updating construction, operational, and closure requirements.

C. There has been extensive stakeholder involvement. This included a series of meetings of all affected parties (government, agriculture, environment, scientific community) in the winter/spring of 2010, as well as the first and second comment periods provided in the rulemaking process.

4. Methodology. This rule is required under IC 13-18-10.

B. Evaluation of Costs and Benefits

1. Primary benefit. The primary benefit of this rule is to protect the waters of the state by minimizing nutrient run-off from confined feeding operations into the waters of the state.
2. Secondary benefits. A secondary benefit of this rule would be decreased costs associated with illnesses derived from manure spilled into surface or ground water. Additionally, by structuring the rule so that large CAFOs have additional requirements to ensure that they are in compliance with EPA expectations, we are protecting farmers from lawsuits that they are discharging without a NPDES permit. The distinction between large and small operations reflects the understanding that smaller operations generally pose less of a potential threat of harm to the environment should there be problems with the operations
3. Compliance costs. This rule makes four substantive changes to the existing CFO regulations that may alter compliance costs.

(A) *Nutrient application rates based on phosphorus* (327 IAC 19-14-3(c)). This has been a requirement for those CAFOs with an NPDES permit since 2003. Therefore, any of the 458 CAFOs that currently hold a NPDES permit and choose to be regulated under this rule should have no costs associated with this requirement. In addition, as provided in 40 CFR 122.23(e) and 40 CFR 412.4, any large CAFO that is not applying based on phosphorus levels will be discharging and must obtain a NPDES permit. Consequently, if a large CAFO abandons its NPDES permit, they must apply at the rates required by this rule.

CFOs will be allowed a seven year phase-in period, based on site specific soil phosphorus levels. This will be plenty of time for farmers to slowly adjust to the new application rates. This could mean a short term increase in costs as the producers must transport manure to other fields if their existing fields' phosphorus levels are too high.

The cost of restricting phosphorus in land application as opposed to restricting nitrogen is estimated to be approximately \$1.13 per acre³. According to this study, while land application costs increase, they are mostly offset by reduced commercial fertilizer expense. Since there are approximately 380,000 CFO regulated acres in Indiana, the annual cost of this provision is estimated to be approximately \$429,400. This cost should gradually decline as the soil phosphorus levels are allowed to come down to below levels listed in the draft rule. However, as this rule is fully implemented over seven years, the annual cost in subsequent years should average well below the initial estimate. While the increased cost will never approach zero, we estimate the average annual cost to prove to be approximately 60% of the first year cost, or approximately \$257,640.

- (B) *Industry consensus standards* (327 IAC 19-12-4). Rather than establishing new design and construction standards, this rule incorporates industry consensus standards for design and construction requirements. Use of consensus standards can significantly lower costs and increase competitiveness. Use of these standards is consistent with national water pollution prevention programs and with national engineering and construction practices for these facilities.

In addition, IC 13-18-10-4(b) requires that standards be consistent with publications from animal industry specialists, postsecondary educational institution specialists, or governmental bodies. By referencing the Indiana Natural Resources Conservation Service, Midwest Plan Service, and Purdue University standards, this rule provides design and construction standards that are based in sound engineering and science and universally accepted.

The design standards incorporated in this rule apply only to new construction, meaning they are not retroactive so that people who constructed in accordance with the old rules won't have to reconstruct anything. As a result, there are no costs associated with existing structures; the only costs would be for future construction. Additionally, if the regulated entity can provide a different design that is equally protective of the environment, the department will review and consider it for approval.

Since not all regulated entities would use these types of structures, and they only apply to future construction, it is not possible at this time to estimate the total cost savings associated with use of consensus standards. However, we believe that any costs associated with use of these standards would be outweighed by the benefits of their use. At this time we estimate the net annual economic impact of this provision to be \$0. However, while not immediately quantifiable, we consider the potential cost savings of this provision to be significant.

- (C) *Prohibition of manure surface application to frozen and snow covered ground except in an emergency* (327 IAC 19-14-4). Similar to the phosphorus application requirement, EPA has indicated that surface application of manure to frozen or snow covered ground is a discharge that would require a NPDES permit.

The only requirement that has changed for all other CFOs is the prohibition of surface application on frozen or snow-covered ground. An exception to this prohibition would be in case of an emergency that the producer has no control over. This provision was added because there is a consensus opinion that application during these conditions greatly increases the risk of run-off and violation of water quality laws. IDEM believes that by adding this, IDEM is protecting the farmers from lawsuits, as well as protecting the waters of the state. Iowa recently implemented a similar measure². In a very wet winter in a state that has approximately 5,500 confinement operations, there were only 43 requests for emergency applications on

frozen or snow-covered ground. This means that only 0.78% of farms submitted an emergency request; in Indiana that would be equivalent to 12 farms. For these reasons, IDEM believes the net annual cost of this provision to be \$0.

- (D) *Ground water monitoring* (327 IAC 19-10). The addition of ground water monitoring requirements to the draft rule will not have a large impact on the regulated community. The purpose of including it in the rule is to provide a basic guide to ground water monitoring. IDEM currently estimates that there are 12 CAFO/CFO farms that are conducting ground water monitoring, and we do not anticipate the inclusion of this provision will increase that number. We are only laying out requirements for farms that would have been required to conduct ground water monitoring whether it was in the rule or not. For these reasons, IDEM believes the net annual cost of this provision to be \$0.

4. Administrative expenses. There are two changes to reporting requirements in the proposed draft rule:

- (A) *Storm water management certification* (327 IAC 19-11-2(c)). This certification is prepared on-site by employees of the regulated entity and is kept in the farm's operating record. CAFOs will be required to prepare and submit a Storm Water Pollution Prevention Plan, as detailed in federal rules. Therefore, this certification applies only to the 1,527 farms already in the CFO program. IDEM anticipates that the cost to initially prepare this document will be two staff hours at \$20/hr for a total of \$40 per facility. This would make the initial cost for CFOs **\$61,080**.

The annual cost of this would be three staff hours at \$20/hr for inspections and monitoring for a total of \$60 per facility and a cost for all CFOs of **\$91,620** annually.

- (B) *Justification of nitrogen losses when calculating land application rates* (327 IAC 19-14-3(b)). This justification is only required if the farm elects to use a number other than the minimum nitrogen loss. This is prepared on site by employees of the regulated entity and kept in the farm's operating record. IDEM anticipates that the cost to prepare this document will be one staff hour at \$20/hr for a total of \$20 per facility per year. It is impossible to know how many farms will choose this option, so we have assumed that 50% will incur this cost at an annual cost of **\$15,280**.

5. Estimate of cost savings. Any CAFO that does not discharge and previously held an NPDES permit that it chooses not to retain would be regulated under this rule will experience cost savings in several areas.

- (A) *An annual report is no longer required.* Based on conversations with several consultants, the average charge for preparing an annual report ranges from \$50 to \$1000. For this analysis, we assume an average \$75 charge. This would result in a total cost savings of **\$34,350** for 458 former NPDES permit holders now regulated under this rule.
- (B) *A soil conservation practice plan is no longer required.* Based on conversations with several consultants and found that the average charge for preparing a SCPP is approximately \$500. This would calculate to a total cost savings of **\$83,000** for 166 former NPDES permit holders that will now be regulated under this rule.
- (C) *Storm water sampling.* Storm water sampling will no longer be required for CAFOs moving to the CFO rule. This represents an average savings for 468 former NPDES permit holders of \$75 each or a total savings of **\$35,100**.

(D) *NPDES permit renewal fee.* Former NPDES permit holders will no longer be required to submit the permit renewal fee every five years, for a total savings of \$30 annually per facility or \$14,040 annually for all facilities.

6. Will the benefits of the rule exceed its costs? While the new monetary costs of this rule slightly exceed the monetary cost savings, IDEM believes that the unquantified benefits to Indiana's environment and human health in the form of continued limits on pollution of Indiana's surface waters by manure from confined feeding operations.

C. Examination of Alternatives

1. Alternatives defined by statute. The relevant statutes do not provide alternatives to issuing CFO approvals. The alternative to getting a CFO approval for those farms defined as CAFOs is to get a NPDES CAFO permit.
2. Feasibility of market-oriented approaches. Any CAFO may elect to retain a NPDES permit in lieu of a CFO approval. This determination is made by the regulated entity and is based on market-oriented decisions. All other CFOs must have an approval, which is required by state law in order to protect waters of the state. Additionally, CFOs may have the flexibility to sell the manure as a valuable nutrient fertilizer course, thereby further reducing reliance on the regulatory scheme to handle their waste.
3. Improving availability of information. Because these approvals are required by state law, alternatives such as improving availability of information cannot provide the same amount of environmental protection as an approval issued by IDEM.
4. Variety of enforcement methods. The current rule has not been updated since 2004. Since that time, compliance staff has noted several areas where improvement could be made. This rule seeks to improve in those areas by updating certain requirements. In addition, the anticipated migration of operations from the NPDES permit to the CFO approval necessitated changes to the CFO program to ensure that CAFOs maintain the same level of protection of human health and the environment as achieved under their NPDES permit.
5. Performance standards. There are performance standards in the rule where appropriate, such as in 327 IAC 19-12-5. Design standards were used for construction, per IC 13-18-10-4(b). Performance standards would not be appropriate for construction since that would create non-uniform structures that would over tax compliance staff as well as consultants. Additionally, the use of design standards means that certification of the design by a registered engineer is not necessary, thus reducing the costs of compliance.
6. Differential requirements. This rule is part of a two-rule project that is differentiated by size. This rule regulates certain CAFOs, the largest class of regulated entities. The companion CFO rule (LSA Document #09-615) is designed to regulate the smaller CFOs.
7. Baseline. Without the proposed rule, any CAFO that chooses not to retain an NPDES permit would immediately move backwards in terms of environmental protection. They would be able to revert back to applying manure at nitrogen rates, instead of phosphorus; they would no longer have to do a storm water pollution prevention plan; and they would be able to land apply on frozen ground. This would result in a significant drop off in the level of environmental protection afforded by a CFO approval. In addition, there would be no regulation of CFOs in the state of Indiana.
8. Different compliance dates. Compliance dates are different for large CAFOs and CFOs for phosphorus application rates. Large CAFOs and CFOs constructed after the effective date of the article must

comply with the listed rates as of the effective date of the article, while existing CFOs have a seven-year phase-in schedule. Because this is a new requirement for CFOs, it would be unrealistic to expect them to comply immediately, since some fields may require several years for phosphorus levels in the soil to come down to listed levels.

9. **Redundancy.** This rule is not redundant of any other standards in federal or state law. Since this rulemaking will repeal 327 IAC 16, this rule will be the only one that implements IC 13-18-10.

D. \$500, 000 Fiscal Impact

The estimated net annual economic impact of this rule is less than \$500,000 to the regulated entities. New costs and cost savings in this rule are summarized as follows:

| Provision | New cost | New savings |
|-----------------------------------------------------------------------------------------------|------------------|-------------|
| Nutrient application rates based on phosphorus (327 IAC 19-14-3(c)) | \$257,640 | |
| Use of industry consensus standards (327 IAC 19-12-4). | | \$0 |
| Prohibition of manure surface application to frozen or snow covered ground (327 IAC 19-14-4) | \$0 | |
| Ground water monitoring (327 IAC 19-10). | \$0 | |
| Storm water management certification one-time cost (327 IAC 19-11-2(c)). | \$61, 080 | |
| Storm water management certification annual cost (327 IAC 19-11-2(c)). | \$91,620 | |
| Justification of nitrogen losses when calculating land application rates (327 IAC 19-14-3(b)) | \$15,280 | |
| Annual report no longer required | | \$34,350 |
| Soil conservation practice plan is no longer required | | \$83,000 |
| Storm water sampling no longer required. | | \$35,100 |
| NPDES permit renewal fee no longer required | | \$14,040 |
| Total costs | \$425,620 | |
| Total savings | | \$166,490 |
| Net annual economic impact (cost) | \$259,130 | |

E. Sources used in determining costs and benefits, including studies to support the policy rationale and types and quantifications of the costs and benefits.

¹ Indiana Department of Environmental Management, Office of Land Quality

² Iowa Department of Natural Resources, Report to the Governor and General Assembly, Manure on Frozen and Snow-covered Ground

³ J. G. Schimmel, R. A. Levins and Z. Vincze. Case Study: Economic Impact of Restricting Phosphorus Fertilization on a Minnesota Dairy

No independent verification is available.